MAUL FOSTER ALONGI
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June 19, 2012
Project No. 8128.01.20

Mr. Dana Bayuk
Oregon Department of Environmental Quality
2020 SW 4th Avenue
Portland, Oregon 97201-4987

Re: MGP DNAPL Removal Program Modification Request
Siltronic Corporation
7200 NW Front Avenue, Portland, OR
ECSI #183

Dear Dana:

Maul Foster & Alongi, Inc. (MFA) has prepared the following request to modify the source control monitoring program at the Siltronic Corporation (Siltronic) facility by increasing the frequency of manufactured gas production (MGP) dense non-aqueous phase liquid {DNAPL) measurement, removal and sampling to weekly for a period of four weeks for the three wells in which DNAPL is present. Source control monitoring continues in accordance with the requirements of the *Order Requiring Remedial Investigation (RI) and Source Control Measures* (the Order), Oregon Department of Environmental Quality (DEQ) No. VC-NWR-03-16, issued to Siltronic Corporation (Siltronic) on February 9, 2004, and supporting reports and documents. The following provides the rationale for the request.

BACKGROUND

In 2009, Siltronic implemented *in situ* chemical reduction (ISCR) enhanced bioremediation in a trichloroethene (TCE) source area located adjacent to the Fab 1 building. Subsequently, Siltronic installed a supplemental ISCR-enhanced bioremediation system, upgradient of the main installation. DNAPL resulting from MGP is present in three monitoring wells installed within or upgradient of the injection zones; TCE and its degradation products have been detected in samples of groundwater and MGP DNAPL collected from these three wells.[1]

MONITORING DATA

In March, 2012 MFA received approval to modify the groundwater sampling program to include monthly removal of MGP DNAPL from these wells. Table 1 includes the measured MGP DNAPL thicknesses and estimated volumes of DNAPL removed from these wells. Thickness measurements were collected with an oil-water interface probe; the volumes of MGP DNAPL (and entrained groundwater) were estimated using graduated containers.

[1] As reported to DEQ with the monthly progress reports.

Based on the data, it does not appear that monthly MGP DNAPL removal has effected significant changes in the thickness measurements.

Table 1 - Approximate Thickness and Volume Removed of MGP DNAPL from Source Area Wells

	WS15-85		WS33-81		WS43-36	
Date	DNAPL thickness (ft)	Volume Removed (gallons)	DNAPL thickness (ft)	Volume Removed (gallons)	DNAPL thickness (ft)	Volume Removed (gallons)
06/13/11	5.56	--	0.10	--	8.20	--
07/22/11	4.82	--	0.85	--	8.06	--
08/17/11	5.20	--	1.30	--	7.98	--
09/16/11	5.30	--	0.95	--	8.34	--
10/13/11	5.95	--	1.50	--	8.60	--
11/28/11	4.70	--	1.70	--	8.69	--
12/19/11	4.50	--	1.90	--	8.50	--
01/16/12	4.48	--	1.32	--	8.55	--
02/28/12	3.45	--	2.40	--	8.71	--
03/19/12	3.76	4.0	2.40	1.3	7.91	4.5
04/06/12	3.30	3.0	1.38	1.0	8.11	5.0
05/15/12	3.12	2.5	1.85	2.0	8.48	6.5

As noted above, TCE and its degradation products have been detected in samples of MGP DNAPL, and are likely a source of impacts to groundwater. Continued removal of MGP DNAPL will reduce the mass of TCE and its degradation products in the non-aqueous phase; presumably, increasing the frequency of MGP DNAPL removal will correspondingly increase the reduction in source loading.

MFA therefore recommends increasing the frequency of MGP DNAPL measurement, removal and sampling for these three wells to weekly, for a period of four weeks, commencing immediately following DEQ approval. At the close of that monitoring period, MFA will summarize the results and recommend next steps. – i.e., continuing or reducing the removal frequency.

I will call you shortly after sending this via email to discuss any of your questions or comments.

Sincerely,

Maul Foster & Alongi, Inc.

James G.D. Peale, RG
Senior Hydrogeologist

Ted Wall, PE
Principal Engineer

cc: Tom McCue, Siltronic Corporation
Alan Gladstone, Davis Rothwell Earle and Xochihua
Chris Reive, Jordan Schrader Ramis
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